IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of

Kazuhiko Isoyama — Confirmation No.: 8991

Serial No.: 09/998,653 — Group Art Unit: 2151

Filed: November 20, 2001 — Examiner: N. Tran

For: QoS SERVER AND CONTROL METHOD FOR ALLOCATING RESOURCES

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

APPELLANT'S BRIEF UNDER 37 C.F.R. §41.37

This brief is in furtherance of the Notice of Appeal, filed in this case on February 22, 2007 following a Notice of Panel Decision mailed April 19, 2007.

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. §41.37(c)):

VII. ARGUMENTS

- ☐ ARGUMENT VIIA. REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH
- ☐ ARGUMENT VIIB. REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH
- ☐ ARGUMENT VIIC. REJECTIONS UNDER 35 U.S.C. §102
- ☑ ARGUMENT VIID. REJECTIONS UNDER 35 U.S.C. §103
- ☐ ARGUMENT VIIE. REJECTION OTHER THAN 35 U.S.C. §§102, 103 AND 112

VIII. CLAIMS APPENDIX

IX. EVIDENCE APPENDIX

X. RELATED PROCEEDINGS APPENDIX

I. REAL PARTY IN INTEREST

The real party in interest in the appeal is:

☐ the party named in the caption of this brief.

☑ the following party:

NEC Corporation of Tokyo, Japan

II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals, interferences or judicial proceedings that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal:

☑ there are no related appeals, interferences or judicial proceedings related to, which directly affect or may be directly affected by or have a bearing on the Board's decision in this pending Appeal.

☐ these are as follows:

III. STATUS OF CLAIMS

The status of the claims in this application are:

A. Total number of claims in Application

Claims in the application are:

Claims 1 - 72

B. Status of all the claims:

1. Claims cancelled:

None

2. Claims withdrawn from consideration but not cancelled:

None

3. Claims pending:

Claims 1 - 72

4. Claims allowed:

None

5. Claims rejected:

Claims 1 - 72

C. Claims on Appeal.

The claims on appeal are:

Claims 1 - 72

IV. STATUS OF AMENDMENTS

The status of amendments filed subsequent to the final rejection are as follows:

No amendments have been filed subsequent to the final rejection of August 22, 2006. All previously submitted amendments have been entered. A Request for Reconsideration Under 37 C.F.R. §1.116 and a Request for Pre-Appeal Brief Review have been filed subsequent to the final rejection of August 22, 2006, but neither paper contained any requested amendments to the specification or claims.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention as defined in the claims on appeal is directed to an arrangement which proves allocation and pre-allocation of a sufficient amount of network communication resources in excess of the network communication resources actually required by calls which may exist at any given time to assure an expectation of *both* a required level of quality of service (QoS) for each existing call *and* to avoid delays for reallocation of resources to accommodate new call requests. That is, if either a QoS fault is detected *or* the amount of network traffic rises above a threshold *within* the amount of resources allocated at a given time, additional network resources are allocated in order to reduce QoS faults and accommodate new call requests *prior to such new call requests being received* (see, for example, Figure 6 and pages 15 - 17) without delay in making new cal connections due to a need to reallocate resources to accommodate new calls at the time of the new call requests, even when Qos failures occur, and to perform such functions without intervention of an operator. See, for example, page 6, lines 1 - 4 and page 9, lines 3 - 14. This meritorious function is achieved by providing a QoS server 100 in the network in any of a number of configurations and constitutions; exemplary configurations and constitutions being illustrated in Figures 4 and 7 - 9, respectively.

The claims are drafted in two substantially parallel sets: claims 1 - 36, including independent claims 1, 4 and 6 being directed to QoS server apparatus and claims 37 - 72, including independent claims 37, 40 and 42, corresponding to claims 1, 4 and 6, respectively, being directed to a method performed by the QoS server. Independent claims 1 and 37 recite constituent QoS server apparatus or steps for monitoring network state (103, 270 - page 14), storing the network state information (106, 271 - page 14), computing (101, 277 - paragraph bridging pages 14 and 15) resource allocation information based on resource requirements with reference to the network state information; storing the resource allocation information (104, 278 -

page 15) and for setting up network resource allocation based on an aggregate of calls and the resource allocation information (102, 279 - page 15). Independent claims 4 and 40 are directed to a QoS server in an environment including a policy server 513 (e.g. the third embodiment illustrated in Figure 8) and including constituent apparatus or steps for monitoring the network state, storing the network state information Both recited in claims 1 and 37, discussed above) and for computing resource allocation information which is communicated to the policy server (pages 18 - 19). Independent claims 6 and 42 are directed to basically the same combination as claims 1 and 37 but claim 6 additionally includes a user information database105 and a resource requiring section 107 while claim 42 additionally includes a step of making resource requirements with reference to the network state information and setup information stored in the user information database (see page15, lines 19 - 26).

Claims 2, 3 and 38, 39 are directed to the source of information (the call setup server 102 - page 15, lines 19 - 26, and the main signal gateway 123a, 123b - page 11, lines 3 - 5) upon which the resource allocation apparatus or step operates. Claims 5 and 41 recite that the resource requirements are derived from the policy server. Claims 7 - 12 and 43 - 48 are directed to traffic requirements and resource requirements are obtained and resource allocation is performed prior to a call arriving on the network but with differing dependencies. Claims 13 - 18 and 49 - 54 are directed to the additional apparatus or step definition of computing path and resource allocation based on an aggregate of calls (see, for example, page 12, lines 11 - 17 and paragraph bridging pages 16 - 17) with various dependencies. Claims 19 - 30 and 55 - 66 are directed to the use of thresholds for additional resource allocation or release based on thresholds (Figure 6 and discussion on pages 15 - 17) with various dependencies. Claims 31 - 35 and 67 - 72 are directed to inclusion of a user information database 105 (or storage of user information therein), monitoring of traffic flow 103 and recomputation 101 and alteration 107 of resource allocation.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1 - 72 have been rejected under 35 U.S.C. §103 as being unpatentable over Hultgren in view of Feinberg and Nag et al. This is the sole ground of rejection in the application to be reviewed on Appeal.

ARGUMENT VIIA. REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

There are no grounds of rejection under 35 U.S.C. §112, first paragraph.

ARGUMENT VIIB. REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

There are no grounds of rejection under 35 U.S.C. §112, second paragraph.

ARGUMENT VIIC. REJECTIONS UNDER 35 U.S.C. §102

There are no grounds of rejection under 35 U.S.C. §102.

ARGUMENT VIID. REJECTIONS UNDER 35 U.S.C. §103

Claims 1 - 72 have been rejected under 35 U.S.C. §103 as being unpatentable over Hultgren in view of Feinberg and Nag et al. It is respectfully submitted that this sole ground of rejection of all claims pending in this application is clearly in error since none of the references applied against the claims teach or suggest providing the claimed apparatus or performing the recited steps to achieve the recited meritorious function of the invention, as is substantially admitted by the Examiner while the references do not contain the teachings or suggestions that the Examiner attributes to them.

Specifically, the Examiner equates the Quality of Service and Charging (QSC) server of Hultgren with QoS server 100 of the invention. In regard to the claim recitation (in all independent claims) of monitoring of network state, the Examiner relies on column 5, lines 9 - 56) which indicates the function of the QSC server to prompt a user to request a high quality connection in preference to a standard connection which certainly does not answer the claimed monitoring of the network state. For example, a prompt to a user (qualitatively) asking "Is your connection slow?..." and advertising higher speed service has nothing to do with monitoring network state. In regard to storing the network state information (if, indeed, the user responses can be so described) the Examiner relies solely on table 2 (column 17) which merely provides parameters (e.g. transmission and error rates) and prices of particular network links which seemingly has nothing to do with operations of the QSC server other than to provide data for queries to users. To the extent that the mere existence of such data may infer monitoring (which Hultgren does not appear to disclose) it is monitoring of particular, individual links that may be available on or to the network and not of the overall network or QoS delivered for particular calls (e.g. "*received* signal quality" or "failures", as recited in all independent claims). In regard to a resource allocation computing section, the Examiner relies on columns 10 and 11

of Hultgren. This passage of Hultgren is directed to the solicitation of bids for service which meets user specifications on links connected to nodes from which an existing link does not meet user specifications and not "with reference to the network state information, including failures a whether *traffic of required quality is being received*" as recited in all independent claims. In regard to the recitation of a resource allocation database recited in independent claims 1, 6, 37 and 42, the Examiner relies on columns 5 and 6 of Hultgren. This passage of Hultgren appears to be directed to developing a route for a particular call at a particular time and not for storing resource allocation information *for the network* developed in the manner claimed elsewhere in these claims. In regard to the recitation of a network setup section, the Examiner asserts this recitation to be answered by the session database 83 of Hultgren. The principal references thereto in Hultgren appears at column 3, lines 59 - 60, in which the database is referred to as a "session or transaction database" and at column 7, lines 13 - 18 which indicate that this data is related to a specific call request by a user and not to resource allocation requirements *for the network* much less developed in the manner recited elsewhere in the claims. The examiner does not attempt to answer the additional recitations of a user information database or a resource requiring section of claims 6 and 42.

The Examiner then admits that the network monitoring section and the resource allocation computing section asserted to be taught by Hultgren do not, in fact, answer the claim recitations in regard to those elements or corresponding steps. Therefore, in summary, Hultgren is directed to marketing resources already acquired and obtaining bids for additional quality of service which may be requested by a user *at the time a call is requested.* Therefore, Hultgren is readily seen to be substantially irrelevant to the present invention as claimed and certainly does not teach or suggest developing a function remotely approaching the meritorious function of the invention which provides for resources to be allocated *in advance of a need therefor* to avoid

failures to meet QoS specifications or delays due to allocation of resources when demanded as well as avoiding operator intervention.

Feinberg is relied on by the Examiner to show monitoring of network state in regard to failures. However, the action taken by Feinberg in response thereto as previously pointed out, is to determine whether or not a requested call can be accommodated within currently allocated resources and QoS requirements and to deny or terminate a requested call if it cannot. Therefore, Feinberg also does not answer numerous claim recitations in regard to computing (or recomputing) resource allocation based on the monitored data and particularly does not provide any teaching or suggestion leading to an expectation of success in achieving resource allocation *in advance of requirements therefor by basing the call setup on "an aggregate of calls"* in order to avoid violating a specified QoS, call setup delay or a need for operator intervention. In other words, Feinberg is dir3ected to limitation of service rather than resource allocation in order to maintain QoS and does not address the avoidance of delays and provides no evidence that the level of ordinary skill in the art extended, at the time the invention was made, to modification of Hultgren to provide such a meritorious function (that is essentially diametrically opposed to the actual function to which each of Hultgren and Feinberg are each individually directed and thus teach away from the present invention, as claimed.

Further, the Examiner admits that the combination of Hultgren and Feinberg does not teach or suggest setting up resource allocation based upon an aggregate of calls and relies upon paragraphs 0053 - 0055 of Nag et al. As previously pointed out, while Nag et al. discusses a call aggregation manager in this passage and the call aggregation manager considers an aggregate of calls which includes an estimate of calls based on historical data and mentions that pre-allocated reservation protocol "may be dynamically adjusted to account for actual usage" (paragraph 0030), Nag et al. is directed to providing scalability of resource allocation processing as the number

of calls becomes large *by providing messages to and from terminals to be multiplexed over a link between aggregation managers such that the aggregation managers "themselves appear as the actual application flow originators/recipients*" (paragraph 0076) and either rejects sessions in the manner of Feinberg or provides "best effort service for the request (without the use of pre-allocated resources)" (paragraph 0068). No teaching of any particular technique for dynamic adjustment of pre-allocated resources (as distinct from dynamic allocation of resources prior to need therefor provided by the invention) is taught or suggested by Nag et al. Therefore, Nag et al. also fails to lead to an expectation of success in achieving the meritorious functions and effects of the invention and provides no evidence that monitoring "failures and received signal quality" over an aggregate of calls for re-allocation of resources to maintain a particular level of QoS and to avoid connection delays and a need for operator intervention was within the level of ordinary skill in the art at the time the invention was made. Further, there is no teaching or suggestion in Nag et al. of any processing in regard to resource allocation in response to QoS events monitored in Feinberg on which the Examiner relies in view of the admitted absence of the same from Hultgren. Additionally, it is respectfully submitted that none of the references relied upon by the Examiner would have any function in the context of any of the others and particularly not for achieving the meritorious effects of the invention.

Additionally, it is respectfully submitted that the applied references taken alone or in any combination, do not answer the recitations of the dependent claims or even approach doing so. *Moreover, the Examiner has not asserted that they do.* Nothing is seen in any of the references which answers the sources of data upon which the resource allocation apparatus operates, as recited in claims 2, 4, 38 and 39; the resource requirements being derived from a policy server as recited in claims 5 and 41; the recited timing of obtaining of traffic and resource requirements as recited in claims 7- 12 and 43 - 48; the computing path and resource allocation based on an

aggregate of calls as recited in claims 13 - 18 and 49 - 54; the use of thresholds in the manner recited in claims 19 - 30 and 55 - 66; or the inclusion of a user information database, monitoring traffic flow and alteration of resource allocation as recited in claims 31 - 35 and 67 - 72.

Therefore, it is abundantly evident that the Examiner has relied on hindsight in the improper combination of the references relied upon as well as on hindsight in regard to individual elements or steps recited in the claims which are not, in fact, answered by the scope and content of the references, the actual scope and content of which prior art falls far short of supporting the conclusion of obviousness that the Examiner has asserted and which precludes a *prima facie* demonstration of obviousness from properly being made. The fact of the matter is that the references relied upon do not contain the teachings or suggestions the Examiner attributes to them and even such content as the Examiner suggests may be relevant to the claimed subject matter clearly fails to answer the explicit recitations of the claims. As to Hultgren, the Examiner has simply asserted that some elements might be similarly named but admits major differences in overall function and function of particular elements and then has asserted secondary references which may monitor certain data but which do not provide network control which is at all similar to that of the invention in response to such data. The scope and content of such prior art simply cannot support a conclusion of obviousness of the claimed subject matter.

Conclusion

In view of the foregoing, it is respectfully submitted that the sole ground of rejection is clearly in error and untenable. The Examiner has not properly considered the explicit recitations of the claims, accurately evaluated the scope and content of the prior art or made a *prima facie* demonstration of the obviousness of any claim in the application. Therefore, reversal of the position of the Examiner in regard to the rejection of claims 1 - 72 under 35 U.S.C. §103 is respectfully requested.

ARGUMENT VIIE. REJECTION OTHER THAN 35 U.S.C. §§102, 103 AND 112

There are no grounds of rejection other than under 35 U.S.C. §§102, 103 or 112.

VIII. CLAIMS APPENDIX

The text of the claims involved in the appeal is:

1. (Previously Presented) A QoS server, which is used in a network system comprising: a network, main signal gateways for accommodating outside networks in the network and executing conversion of main signals between the network and the outside networks, a call setup server for setting up a call, and signaling gateways for executing conversion of signaling signals between the call setup server and the outside networks, including:

a network monitoring section for monitoring the network state, including failures and received signal quality;

a network state database for storing network state information obtained at the network monitoring section;

a resource allocation computing section for computing resource allocation information for applications based on resource requirements with reference to the network state information, including failures and whether traffic of required quality is being received;

a resource allocation database for storing the resource allocation information; and

a network setup section for setting up resource allocation on the network based on an aggregate of calls and the resource allocation information.

2. (Original) The QoS server claimed in claim 1, wherein resource allocation is conducted based on the resource requirements from a resource requiring section that makes resource requirements located in the call setup server.

3. (Original) The QoS server claimed in claim 1, wherein resource allocation is conducted based on the resource requirements from a resource requiring section that makes resource requirements located in the main signal gateway.

4. (Previously Presented) A QoS server, which is used in a network system comprising: a network being connected to outside networks, and a policy server for deciding a policy for the network and setting up resource allocation on the network, including:

a network monitoring section for monitoring the network state, including failures and received signal quality;

a network state database for storing network state information obtained at the network monitoring section; and

a resource allocation computing section for computing resource allocation information for applications based on resource requirements with reference to the network state information, including failures and whether traffic of required quality is being received and notifying the policy server of the resource allocation information.

5. (Original) The QoS server claimed in claim 4, wherein resource allocation is conducted based on the resource requirements from a resource requiring section that makes resource requirements located in the policy server.

6. (Previously Presented) A QoS server for setting up resource allocation on a network which is connected to outside networks, including:

a network monitoring section for monitoring the network state, including failures and received signal quality;

a network state database for storing network state information obtained at the network monitoring section;

a user information database for storing setup information;

a resource requiring section for making resource requirements with reference to the network state information in the network state database and the setup information in the user information database;

a resource allocation computing section for computing resource allocation information for applications based on the resource requirements and with reference to the network state information;

a resource allocation database for storing the resource allocation information; and

a network setup section for setting up resource allocation on the network based on an aggregate of calls and the resource allocation information.

7. (Original) The QoS server claimed in claim 1, which previously obtains traffic requirements and resource requirements to compute path and resource allocation, and conducts path and resource allocation before a call arrives on the network.

8. (Original) The QoS server claimed in claim 2, which previously obtains traffic requirements and resource requirements to compute path and resource allocation, and conducts path and resource allocation before a call arrives on the network.

9. (Original) The QoS server claimed in claim 3, which previously obtains traffic requirements and resource requirements to compute path and resource allocation, and conducts path and resource allocation before a call arrives on the network.

10. (Original) The QoS server claimed in claim 4, which previously obtains traffic requirements and resource requirements to compute path and resource allocation, and conducts path and resource allocation before a call arrives on the network.

11. (Original) The QoS server claimed in claim 5, which previously obtains traffic requirements and resource requirements to compute path and resource allocation, and conducts path and resource allocation before a call arrives on the network.

12. (Original) The QoS server claimed in claim 6, which previously obtains traffic requirements and resource requirements to compute path and resource allocation, and conducts path and resource allocation before a call arrives on the network.

13. (Original) The QoS server claimed in claim 1, which obtains traffic requirements and resource requirements of calls to compute path and resource allocation for an aggregate of calls, and conducts path and resource allocation.

14. (Original) The QoS server claimed in claim 2, which obtains traffic requirements and resource requirements of calls to compute path and resource allocation for an aggregate of calls, and conducts path and resource allocation.

15. (Original) The QoS server claimed in claim 3, which obtains traffic requirements and resource requirements of calls to compute path and resource allocation for an aggregate of calls, and conducts path and resource allocation.

16. (Original) The QoS server claimed in claim 4, which obtains traffic requirements and resource requirements of calls to compute path and resource allocation for an aggregate of calls, and conducts path and resource allocation.

17. (Original) The QoS server claimed in claim 5, which obtains traffic requirements and resource requirements of calls to compute path and resource allocation for an aggregate of calls, and conducts path and resource allocation.

18. (Original) The QoS server claimed in claim 6, which obtains traffic requirements and resource requirements of calls to compute path and resource allocation for an aggregate of calls, and conducts path and resource allocation.

19. (Original) The QoS server claimed in claim 1, which obtains traffic requirements and resource requirements of additional aggregate calls, when the number of connected calls exceeds a certain threshold, to re-compute path and resource allocation, and renews the threshold after additional path and resource allocation.

20. (Original) The QoS server claimed in claim 2, which obtains traffic requirements and resource requirements of additional aggregate calls, when the number of connected calls exceeds a certain threshold, to re-compute path and resource allocation, and renews the threshold after additional path and resource allocation.

21. (Original) The QoS server claimed in claim 3, which obtains traffic requirements and resource requirements of additional aggregate calls, when the number of connected calls exceeds a certain threshold, to re-compute path and resource allocation, and renews the threshold after additional path and resource allocation.

22. (Original) The QoS server claimed in claim 4, which obtains traffic requirements and resource requirements of additional aggregate calls, when the number of connected calls exceeds a certain threshold, to re-compute path and resource allocation, and renews the threshold after additional path and resource allocation.

23. (Original) The QoS server claimed in claim 5, which obtains traffic requirements and resource requirements of additional aggregate calls, when the number of connected calls exceeds a certain threshold, to re-compute path and resource allocation, and renews the threshold after additional path and resource allocation.

24. (Original) The QoS server claimed in claim 6, which obtains traffic requirements and resource requirements of additional aggregate calls, when the number of connected calls exceeds a certain threshold, to re-compute path and resource allocation, and renews the threshold after additional path and resource allocation.

25. (Original) The QoS server claimed in claim 1, which obtains a request for resource release for aggregate calls when the number of connected calls underruns a certain threshold, and renews the threshold after resource release.

26. (Original) The QoS server claimed in claim 2, which obtains a request for resource release for aggregate calls when the number of connected calls underruns a certain threshold, and renews the threshold after resource release.

27. (Original) The QoS server claimed in claim 3, which obtains a request for resource release for aggregate calls when the number of connected calls underruns a certain threshold, and renews the threshold after resource release.

28. (Original) The QoS server claimed in claim 4, which obtains a request for resource release for aggregate calls when the number of connected calls underruns a certain threshold, and renews the threshold after resource release.

29. (Original) The QoS server claimed in claim 5, which obtains a request for resource release for aggregate calls when the number of connected calls underruns a certain threshold, and renews the threshold after resource release.

30. (Original) The QoS server claimed in claim 6, which obtains a request for resource release for aggregate calls when the number of connected calls underruns a certain threshold, and renews the threshold after resource release.

31. (Original) The QoS server claimed in claim 1, further including a user information database for storing the resource requirements, which monitors traffic flow corresponding to the allocated resources, and when detecting that the required quality is not satisfied, re-computes path and resource allocation with reference to the user information database to alter path and resource allocation.

32. (Original) The QoS server claimed in claim 2, further including a user information database for storing the resource requirements, which monitors traffic flow corresponding to the allocated resources, and when detecting that the required quality is not satisfied, re-computes path and resource allocation with reference to the user information database to alter path and resource allocation.

33. (Original) The QoS server claimed in claim 3, further including a user information database for storing the resource requirements, which monitors traffic flow corresponding to the allocated resources, and when detecting that the required quality is not satisfied, re-computes path and resource allocation with reference to the user information database to alter path and resource allocation.

34. (Original) The QoS server claimed in claim 4, further including a user information database for storing the resource requirements, which monitors traffic flow corresponding to the allocated resources, and when detecting that the required quality is not satisfied, re-computes path and resource allocation with reference to the user information database to alter the path and resource allocation.

35. (Original) The QoS server claimed in claim 5, further including a user information database for storing the resource requirements, which monitors traffic flow corresponding to the allocated resources, and when detecting that the required quality is not satisfied, re-computes path and resource allocation with reference to the user information database to alter the path and resource allocation.

36. (Original) The QoS server claimed in claim 6, which monitors traffic flow corresponding to the allocated resources, and when detecting that the required quality is not satisfied, re-computes path and resource allocation to alter the path and resource allocation.

37. (Previously Presented) A resource allocation control method in a network system comprising: a network, main signal gateways for accommodating outside networks in the network and executing conversion of main signals between the network and the outside networks, a call setup server for setting up a call, and signaling gateways for executing conversion of signaling signals between the call setup server and the outside networks, including the steps of:

monitoring the network state, including failures and quality of received signals, to provide network state information;

storing the network state information in a network state database;

computing resource allocation for applications based on resource requirements with reference to the network state information stored in the network state database, including failures and whether traffic of required quality is being received, to provide resource allocation information;

storing the resource allocation information in a resource allocation database; and

setting up resource allocation on the network based on an aggregate of calls and the resource allocation information stored in the resource allocation database

38. (Original) The resource allocation control method claimed in claim 37, wherein resource allocation is conducted based on the resource requirements from the call setup server.

39. (Original) The resource allocation control method claimed in claim 37, wherein resource allocation is conducted based on the resource requirements from the main signal gateway.

40. (Previously Presented) A resource allocation control method in a network system comprising: a network being connected to outside networks, and a policy server for deciding a policy for the network and setting up resource allocation on the network, including the steps of:

monitoring the network state, including failures and quality of received signals, to form network state information;

storing the network state information in a network state database;

computing resource allocation information for applications based on resource requirements with reference to the network state information, including failures and whether traffic of required quality is being received, stored in the network state database; and

notifying the policy server of the resource allocation information.

41. (Original) The resource allocation control method claimed in claim 40, wherein the resource requirements are produced in the policy server.

42. (Previously Presented) A resource allocation control method for setting up resource allocation on a network which is connected to outside networks, including the steps of:

monitoring the network state, including failures and quality of received signals, to form network state information;

storing the network state information in a network state database;

making resource requirements with reference to the network state information stored in the network state database and setup information stored in a user information database;

computing resource allocation for applications based on the resource requirements with reference to the network state information, including failures and whether traffic of required quality is being received, stored in the network state database;

storing resource allocation information in a resource allocation database; and

setting up resource allocation on the network based on an aggregate of calls and the resource allocation information stored in the resource allocation database.

43. (Original) The resource allocation control method claimed in claim 37, wherein traffic requirements and resource requirements are previously obtained to compute path and resource allocation, and path and resource allocation is conducted before a call arrives on the network.

44. (Original) The resource allocation control method claimed in claim 38, wherein traffic requirements and resource requirements are previously obtained to compute path and resource allocation, and path and resource allocation is conducted before a call arrives on the network.

45. (Original) The resource allocation control method claimed in claim 39, wherein traffic requirements and resource requirements are previously obtained to compute path and resource allocation, and path and resource allocation is conducted before a call arrives on the network.

46. (Original) The resource allocation control method claimed in claim 40, wherein traffic requirements and resource requirements are previously obtained to compute path and resource allocation, and path and resource allocation is conducted before a call arrives on the network.

47. (Original) The resource allocation control method claimed in claim 41, wherein traffic requirements and resource requirements are previously obtained to compute path and resource allocation, and path and resource allocation is conducted before a call arrives on the network.

48. (Original) The resource allocation control method claimed in claim 42, wherein traffic requirements and resource requirements are previously obtained to compute path and resource allocation, and path and resource allocation is conducted before a call arrives on the network.

49. (Original) The resource allocation control method claimed in claim 37, wherein traffic requirements and resource requirements of calls are obtained to compute path and resource allocation for an aggregate of calls, and path and resource allocation is conducted.

50. (Original) The resource allocation control method claimed in claim 38, wherein traffic requirements and resource requirements of calls are obtained to compute path and resource allocation for an aggregate of calls, and path and resource allocation is conducted.

51. (Original) The resource allocation control method claimed in claim 39, wherein traffic requirements and resource requirements of calls are obtained to compute path and resource allocation for an aggregate of calls, and path and resource allocation is conducted.

52. (Original) The resource allocation control method claimed in claim 40, wherein traffic requirements and resource requirements of calls are obtained to compute path and resource allocation for an aggregate of calls, and path and resource allocation is conducted.

53. (Original) The resource allocation control method claimed in claim 41, wherein traffic requirements and resource requirements of calls are obtained to compute path and resource allocation for an aggregate of calls, and path and resource allocation is conducted.

54.(Original) The resource allocation control method claimed in claim 42, wherein traffic requirements and resource requirements of calls are obtained to compute path and resource allocation for an aggregate of calls, and path and resource allocation is conducted.

55. (Original) The resource allocation control method claimed in claim 37, wherein when the number of connected calls exceeds a certain threshold, traffic requirements and resource requirements of additional aggregate calls are obtained to re-compute path and resource allocation, and the threshold is renewed after additional path and resource allocation.

56. (Original) The resource allocation control method claimed in claim 38, wherein when the number of connected calls exceeds a certain threshold, traffic requirements and resource requirements of additional aggregate calls are obtained to re-compute path and resource allocation, and the threshold is renewed after additional path and resource allocation.

57. (Original) The resource allocation control method claimed in claim 39, wherein when the number of connected calls exceeds a certain threshold, traffic requirements and resource requirements of additional aggregate calls are obtained to re-compute path and resource allocation, and the threshold is renewed after additional path and resource allocation.

58. (Original) The resource allocation control method claimed in claim 40, wherein when the number of connected calls exceeds a certain threshold, traffic requirements and resource requirements of additional aggregate calls are obtained to re-compute path and resource allocation, and the threshold is renewed after additional path and resource allocation.

59. (Original) The resource allocation control method claimed in claim 41, wherein when the number of connected calls exceeds a certain threshold, traffic requirements and resource requirements of additional aggregate calls are obtained to re-compute path and resource allocation, and the threshold is renewed after additional path and resource allocation.

60. (Original) The resource allocation control method claimed in claim 42, wherein when the number of connected calls exceeds a certain threshold, traffic requirements and resource requirements of additional aggregate calls are obtained to re-compute path and resource allocation, and the threshold is renewed after additional path and resource allocation.

61. (Original) The resource allocation control method claimed in claim 37, wherein when the number of connected calls underruns a certain threshold, a request for resource release for reduced calls is obtained and the threshold is renewed after resource release.

62. (Original) The resource allocation control method claimed in claim 38, wherein when the number of connected calls underruns a certain threshold, a request for resource release for reduced calls is obtained and the threshold is renewed after resource release.

63. (Original) The resource allocation control method claimed in claim 39, wherein when the number of connected calls underruns a certain threshold, a request for resource release for reduced calls is obtained and the threshold is renewed after resource release.

64. (Original) The resource allocation control method claimed in claim 40, wherein when the number of connected calls underruns a certain threshold, a request for resource release for reduced calls is obtained and the threshold is renewed after resource release.

65. (Original) The resource allocation control method claimed in claim 41, wherein when the number of connected calls underruns a certain threshold, a request for resource release for reduced calls is obtained and the threshold is renewed after resource release.

66. (Original) The resource allocation control method claimed in claim 42, wherein when the number of connected calls underruns a certain threshold, a request for resource release for reduced calls is obtained and the threshold is renewed after resource release.

67. (Original) The resource allocation control method claimed in claim 37, wherein:

a user information database stores the resource requirements; and

traffic flow corresponding to the allocated resources is monitored, and when it is detected that the required quality is not satisfied, path and resource allocation is re-computed with reference to the user information database and altered.

68. (Original) The resource allocation control method claimed in claim 38, wherein:

a user information database stores the resource requirements; and

traffic flow corresponding to the allocated resources is monitored, and when it is detected that the required quality is not satisfied, path and resource allocation is re-computed with reference to the user information database and altered.

69. (Original) The resource allocation control method claimed in claim 39, wherein:

a user information database stores the resource requirements; and

traffic flow corresponding to the allocated resources is monitored, and when it is detected that the required quality is not satisfied, path and resource allocation is re-computed with reference to the user information database and altered.

70. (Original) The resource allocation control method claimed in claim 40, wherein:

a user information database stores the resource requirements; and

traffic flow corresponding to the allocated resources is monitored, and when it is detected that the required quality is not satisfied, path and resource allocation is re-computed with reference to the user information database and altered.

71. (Original) The resource allocation control method claimed in claim 41, wherein:

a user information database stores the resource requirements; and

traffic flow corresponding to the allocated resources is monitored, and when it is detected that the required quality is not satisfied, path and resource allocation is re-computed with reference to the user information database and altered.

72. (Original) The resource allocation control method claimed in claim 42, wherein traffic flow corresponding to the allocated resources is monitored, and when it is detected that the required quality is not satisfied, path and resource allocation is re-computed and altered.

IX. Evidence Appendix

No additional evidence is presented in this Appeal.

X. RELATED PROCEEDINGS APPENDIX

There are no other proceedings related to this Appeal.

Respectfully submitted,

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